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D407-667-105TRN
Job Sheet 202843



Part No: D407-667-105TRN Job Qty: 1 pcs

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs Status: New Priority: Medium

Job Created: 11/4/19 Job Tracking No:

Due Date: 11/29/19 Created By: Marie Lajeunesse

Type: Stock Description:

Note: DWG D407-667-145 REV.D IPP Rev:a 08.02.28 new issue-EC IPP Rev B 08.04.02 Removed polish EC verified by: DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Lead Time	Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier			
100	Mori Seiki TL-40 - 1	1 pcs	11/29/19	11/29/19	1.00	1.25	Mori Seiki TL-40 - 1			DAS 662019/11/08
110	QC 2	1 pcs	11/29/19	11/29/19	0.00	0.00	QC 2 - 1		9-89	
							QC 2 - 12			
							QC 2 - 14			
							QC 2 - 17			
							QC 2 - 19			
							QC 2 - 2			
							QC 2 - 20			
							QC 2 - 22			
							QC 2 - 23			
							QC 2 - 25			
							QC 2 - 32			
							QC 2 - 33			
							QC 2 - 35			
							QC 2 - 39			
							QC 2 - 4			
							QC 2 - 40			
							QC 2 - 44			
							QC 2 - 45			
							QC 2 - 48			
							QC 2 - 49			
							QC 2 - 50			
							QC 2 - 51			
							QC 2 - 52			
							QC 2 - 57			
							QC 2 - 62			
							QC 2 - 63			
							QC 2 - 8			DAS 662019/11/08
							QC 2 - 66		9-89	
							QC 2 - 64			

				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	DAS
120	Mori Selki TL-40 - 1 - B4B	1 pcs	11/29/19	1.00 1.12	Mori Selki TL-40 - 1 - B4B
130	QC 2	1 pcs	11/29/19	0.00 0.00	QC 2 - 1
				QC 2 - 12	
				QC 2 - 14	
				QC 2 - 17	
				QC 2 - 19	
				QC 2 - 2	
				QC 2 - 20	
				QC 2 - 22	
				QC 2 - 23	
				QC 2 - 25	
				QC 2 - 32	
				QC 2 - 33	
				QC 2 - 35	
				QC 2 - 39	
				QC 2 - 4	
				QC 2 - 40	
				QC 2 - 44	
				QC 2 - 45	
				QC 2 - 48	
				QC 2 - 49	
				QC 2 - 50	
				QC 2 - 51	
				QC 2 - 52	
				QC 2 - 57	
				QC 2 - 62	
				QC 2 - 63	
				QC 2 - 8	DAS
				QC 2 - 66	66
				QC 2 - 64	9-89
				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
140	QC 8	1 pcs	11/29/19	0.00 0.00	QC 8 - 12
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	

					QC 8 - 1 (A)	
					QC 8 - 47	
					QC 8 - 40	
					QC 8 - 52	
					QC 8 - 23	
					QC 8 - 57	DAS
					QC 8 - 76	76
					QC 8 - 61	9-89
145 Crosstubes - 2 - B4B	1 pcs	11/29/19	0.00 0.36		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	BFB 11/22/2019
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
150 Crosstubes - 3 - B4B	1 pcs	11/29/19	0.00 0.40		Crosstubes - 1 - B4B	BFB 19-11-25
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
160 QC 7	1 pcs	11/29/19	0.00 0.00		QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	
					QC 7 - 50	
					QC 7 - 67	
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
					QC 7 - 61	DAS
					QC 7 - 81	76
					QC 7 - 76	9-89
					QC 7 - 79	
170 Packaging 3-1 - Stock - B4B	1 pcs	11/29/19	0.00 0.00		Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	

				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	B3 11/25/2019
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
180 QC 21 - SA	1 pcs	11/29/19	0.00 0.00	QC 21 - SA - 21	DAS
				QC 21 - SA - 70	21
				QC 21 - SA - 53	NOV 25 2019

Part Op 100 - 1- Fill tube with sand & install plugs 407-105 on both ends as per Folio FA249 2- Turn both side of tube 3- Turn first Descriptions: taper section on both side as per folio FA249
110 - (QC2- Inspect parts off machine FAI/FAIB)
120 - 1- Turn second taper on both side 4- Scribe part # and batch # using vibrating stylus on the cuff as per Dwg D407-667-145 5- Ultra sound the crosstube as per FAI. "wall thickness mesurment" at given location.
130 - (QC2- Inspect parts off machine FAI/FAIB)
140 - (QC8- Inspect parts - second check)
145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.
150 - 1- handfinish X-TUBE INSIDE AND OUT
160 - (QC7-Inspect Chemical Conversion Coat)
170 - (Identify as per dwg & Stock Location:) LOCATION : LG014
180 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6010-115	Crosstube Material	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	F123475

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6010-115	1	106	0

Part Specifications

Specifications could not be found.



Container No: S229967



Part: D407 - 667 - 105TRN

Job No: 202843

Serial No/Batch: S229967

Revision: D

Inspector:

Exp Date:

Instructions:

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DART AEROSPACE LTD	Work Order:	202843
Description: Crosstube Assembly	Part Number:	D407-667-145
Inspection Dwg: D407-667-145 Rev: D		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.240	✓		CNC-04	
	1.865	+0.005/-0.000	1.870	✓		CNC-08	
	1.878	+0.005/-0.000	1.883	✓		↓	
	1.970	+0.005/-0.000	1.975	✓		↓	
	2.030	+0.005/-0.000	2.035	✓		CNC-04	
	2.165	+0.005/-0.000	2.170	✓		"	
	0.125	+/-0.010	.128	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		QG	
	R0.500	+/-0.010	.500	✓		↓	
	R0.063	+/-0.010	.063	✓		↓	
	4.438	+/-0.030	4.439	✓		CNC-08	
SIDE B	2.240	+0.005/-0.000	2.240	✓		CNC-04	
	1.865	+0.005/-0.000	1.870	✓		CNC-08	
	1.878	+0.005/-0.000	1.883	✓		↓	
	1.970	+0.005/-0.000	1.975	✓		↓	
	2.030	+0.005/-0.000	2.035	✓		CNC-04	
	2.165	+0.005/-0.000	2.170	✓		"	
	0.125	+/-0.010	.120	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		QG	
	R0.500	+/-0.010	.500	✓		↓	
	R0.063	+/-0.010	.063	✓		↓	
	4.438	+/-0.030	4.441	✓		CNC-08	
	113.20	+/-0.020	113.20	✓		Tape	

Item	Qty -145	Part Number	Description
1	X	D407-887-145	CROSSTUBE ASSEMBLY (407 HIGH FWD)
2	1	D8010-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20801AD4W10	RIVET (OR NAS8302B-4-10)
9	AR	PROSEAL 880 B-2	SEALANT, AMS-S-880Z CLASS B-2
10	2	AN742D36	CLAMP
11	2	MS9165-05	ANGLE BRACKET
12	2	MS21042L3	NUT (OR MS21042-3)
13	2	MS27038-1-08	SCREW
14	4	NAS1149C0332R	WASHER (OR AN880C10L)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D8010-115
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D407-887-145" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 17.8 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 6 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) TO INSTALL D2891-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04 TO 0.07 THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-880Z CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.
- 16) MASK AREA UNDER CLAMP PRIOR TO PAINTING.
- 17) SEAL EDGES WHERE AN742D36 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/ -291 OR MIL-S-8802 CLASS B2 OR PROSEAL 880 SEALANT.
- 18) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MILLIOHMS.

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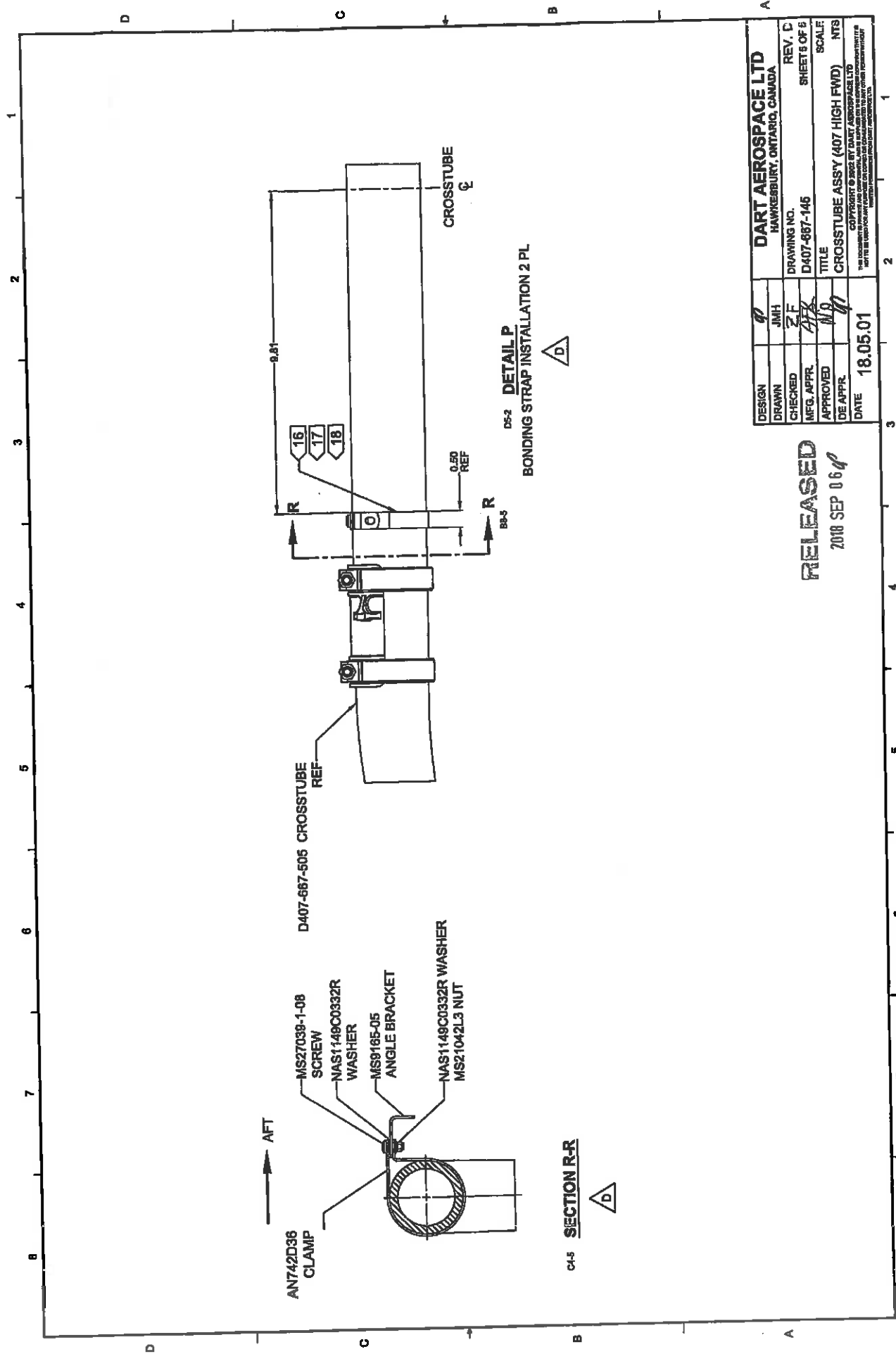
D	REVISE SHEET 2 ASSEMBLY DETAIL HOLE PATTERN PER CAR18-221. UPDATE PARTS LIST AND GENERAL NOTES 12 & 16 TO INCORPORATE DEO C-1. ADD ITEMS 10-14 TO PARTS LIST. ADD GENERAL NOTES 15-18 AND ADD SHEET 5 TO INCORPORATE DEO C-2.	JMH	18.05.01
C	REVISE GENERAL NOTES/PART LIST (ZN D7-1): REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2891-100-884 (ZN D6-2 & AS-2); REMOVED REF. 7 ADD TO GENERAL NOTES C-1, C-2, D2-3; RELOCATED PLUG #8 (ZN D6-3) PER NOTE 210; REVISED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATIBILITY WITH BHTAA SKIDTUBES	PH	05.07.28
A	NEW ISSUE	CP	02.05.08
REV.	DESCRIPTION	BY	DATE
DESIGN	JMH		
DRAWN	JMH		
CHECKED	ZT		
MFG. APPL.	NO		
APPROVED	NO		
DE APPL.	NO		
DATE	18.05.01		

DESIGN	JMH	DART AEROSPACE LTD	REV. D
DRAWN	JMH	HAWTHORNTON, ONTARIO, CANADA	
CHECKED	ZT	DRAWING NO.	SHEET 1 OF 5
MFG. APPL.	NO	D407-887-145	
APPROVED	NO	TITLE	CROSSTUBE ASSY (407 HIGH FWD)
DE APPL.	NO	SCALE	NTS
DATE	18.05.01		

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RELEASED

2018 SEP 05
2018-07-17



Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only



NCR No. _____

Job: _____

Part No. _____

Date :

Sequence #:

QTY Affected :

MIRB (QS1042)

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐

DEPARTMENT/PROCESS

Skid-tube ☐
Machining ☐
Large Fab ☐

Cross tube ☐
Small Fab ☐
Finishing ☐

Eng. (Non-AW) ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐

Engineering ☐
Water Jet ☐
Supplier ☐
Quality ☐

Description Work Order Deviation

Disposition

Root Cause

Operator ☐
Manufacturing Process ☐
Equip/Tooling ☐
Handling/Preservation ☐
Material ☐
Product Improvement ☐
Process Improvement ☐
Human Factors ☐

FAULT CATEGORY

Pressure/Forced ☐
Bending ☐
Crushing ☐
Cracks ☐
Crimp/Kink/Ripple/Wave/Twist ☐
Marks/Chatter ☐
Mislabeled ☐
Other/Details: _____

Contamination ☐
Misaligned/off center ☐
BOM/Route ☐
Broken/Damage/Defect ☐
Incomplete/Unclear Instructions ☐
Drill Holes ☐
Fit/Function ☐

Power Loss/Surge ☐
Folio/Program ☐
Grain Direction ☐
Weld ☐
Wrong Stock Pulled ☐
Out of Sequence ☐
Off-set/Set-up ☐

Positioned Wrong ☐
Outside Tolerance ☐
Drawing ☐
Finish ☐
Part Lost/Missing ☐
Misread ☐

Lead hand / Supervisor

QC / QA Coordinator